

CURRENT STATUS OF THE CLAIMS

Please amend the claims as indicated hereafter.

Please cancel claim 42 without prejudice waiver or disclaimer and add claims 43 and 44.

Claims 1 – 35 cancelled.

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36. (Currently Amended) An apparatus for low-damage anisotropic dry etching of a substrate, comprising:

a plasma reactor having a plasma creation means, the plasma reactor adapted to have a plasma at a first electrical potential therein;

a mechanical support within said plasma reactor adapted to receive said substrate, wherein said mechanical support is electrically isolated from said plasma creation means;

a pulse waveform power source adapted to electrically bias said mechanical support and said substrate placed thereon, said pulse waveform power source adapted to cycle between a positive electrical potential and a negative electrical potential, wherein the negative potential is below the first electrical potential, and wherein the positive potential is such that electrons having kinetic energy less than 100 electron-volts are attracted to the substrate and etch material therefrom providing a range of electrical bias to said mechanical support and said substrate placed thereon, the range of electrical bias extending from a second electrical potential, which is a negative potential and less than said first electrical potential, to a third electrical potential, which is positive and greater than said first electrical potential, whereby biasing said substrate to said second electrical potential attracts positive ions from said plasma to said substrate for electrically neutralizing said substrate and biasing said substrate to said third electrical potential attracts electrons from said plasma to said substrate for etching said substrate.

Claims 37 and 38 cancelled.

39. (Previously Amended) The apparatus of claim 36, wherein said pulse waveform power source biases the mechanical support such that ions of the plasma are attracted to the substrate and electrically neutralize the substrate without damaging the substrate.

40. (Previously Amended) The apparatus of claim 36, further including:
a direct current power source adapted to electrically bias said mechanical support and said substrate placed thereon.

Claims 41 and 42 cancelled.

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43. (New) The apparatus of claim 36, wherein the wave form of the pulse wave supplied by the pulse waveform power source is defined by a period having a first predetermined interval at the positive electrical potential and a second predetermined interval at the negative electrical potential, wherein during the first interval electrons accumulate on the substrate, and wherein the second interval is of duration such that a sufficient number of ion are attracted to the substrate to substantially neutralize the accumulated electrons on the substrate.

44. (New) The apparatus of claim 43, wherein the magnitude of the negative potential is slightly below the first potential.